

Genkei MASAMUNE\*: On the importance of the Osumi Strait  
as a phytogeographical demarcation line.

正宗嚴敬\*: 大隅海峡の植物地理区分上の重要性について

It is a well known facts that there exists a phytogeographical demarcation line in the northern part of the Ryukyu Archipelago. And nearly all the phyto-geographers believe that this demarcation line should be drawn between Amami-osima and Yakusima. But from my recent study of the flora of the Ryukyu Archipelago and that of Kyusyu, I have come to have a doubt about the idea of putting the line between above mentioned two islands. Even though I know it is more helpful and valuable to take the species as the distributional elements to decide the problem, I took the genera in this paper, because I have not enough pages.

I put two hypothetical demarcation lines in this region. I put one line in the so-called Tokara Strait, between Amami-osima and the other one in the Osumi Strait between Tanegasima and the main land of Kyusyu. And to decide which line is more important as the demarcation line I picked up these genera which have their limits on both sides of the hypothetical demarcation line and summed up the number (dividing number) and compared this number with the number which was gotten in the same method from the other hypothetical demarcation line. And as the result I got the following data.

Those genera which are found in the southern part of Kyusyu and are not found in Tanegasima and other more southern island than Tanegasima (in the Ryukyu Archipelago and Taiwan Region) are as follows :

<i>Achillea</i>	<i>Adenocaulon</i>	<i>Carduus</i>
<i>Serratula</i>	<i>Phyteuma</i>	<i>Dipsacus</i>
<i>Diervilla</i>	<i>Pseudopyxis</i>	<i>Phryma</i>
<i>Lathraea</i>	<i>Phacellanthus</i>	<i>Monochasma</i>
<i>Meehania</i>	<i>Thymus</i>	<i>Ancistrocarya</i>
<i>Omphalodes</i>	<i>Metaplexis</i>	<i>Halenia</i>
<i>Syringa</i>	<i>Pterostyrax</i>	<i>Enkyanthus</i>
<i>Meisteria</i>	<i>Cryptotaeniopsis</i>	<i>Heracleum</i>
<i>Ligusticum</i>	<i>Nothosmyrnium</i>	<i>Elodes</i>
<i>Tilia</i>	<i>Staphylea</i>	<i>Orixa</i>

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<i>Amelanchier</i>	<i>Chaenomeles</i>	<i>Geum</i>
<i>Kerria</i>	<i>Hamamelis</i>	<i>Boykinia</i>
<i>Deinanth</i>	<i>Philadelphus</i>	<i>Platycrater</i>
<i>Hemidistichophyllum</i>	<i>Lawiella</i>	<i>Dentaria</i>
<i>Thlaspi</i>	<i>Menispermum</i>	<i>Epimedium</i>
<i>Actaea</i>	<i>Adonis</i>	<i>Cimicifuga</i>
<i>Paeonia</i>	<i>Pulsatilla</i>	<i>Semiaquilegia</i>
<i>Euptelea</i>	<i>Cercidiphyllum</i>	<i>Lychnis</i>
<i>Moehringia</i>	<i>Corylus</i>	<i>Ostrya</i>
<i>Populus</i>	<i>Pecteilis</i>	<i>Tipularia</i>
<i>Convallaria</i>	<i>Lloydia</i>	<i>Amana</i>
<i>Beckmannia</i>	<i>Brachyelytrum</i>	<i>Chimonobambusa</i>
<i>Diarrhena</i>	<i>Hystrix</i>	<i>Koeleria</i>
<i>Milium</i>	<i>Sasa</i>	<i>Semiarundinaria</i>
<i>Hydrocharis</i>	<i>Vallisneria</i>	<i>Triglochin</i>
<i>Sparganium</i>	<i>Camptosorus</i>	<i>Onoclea</i>
<i>Coptidipteris</i>	<i>Pleurosoriopsis</i>	

Thus the total number of the genera became 80. The genera which have their northern limit of distribution in Tanegasima and Yakusima are as follows :

<i>Abacopteris</i>	<i>Blechnopsis</i>	<i>Acrostichum</i>
<i>Ophioderma</i>	<i>Entada</i>	<i>Pongamia</i>
<i>Croton</i>	<i>Kandelia</i>	<i>Melastoma</i>
<i>Bredia</i>	<i>Blastus</i>	<i>Erythraea</i>
<i>Isanthera</i>	<i>Messerschmidia</i>	<i>Codonocanthus</i>
<i>Diplospora</i>	<i>Morinda</i>	<i>Myriactis</i>
<i>Scaevola</i>	<i>Trema</i>	<i>Cassytha</i>
<i>Antidesma</i>	<i>Blumea</i>	<i>Spinifex</i>
<i>Arenga</i>	<i>Musa</i>	<i>Apostasia</i>

Thus the total number of the genera became 27 ( $80+27=107$ , dividing number of genera of Osumi Strait). The genera which have their southern limits in Yakusima and Tanegasima are as follows :

<i>Cryptomeria</i>	<i>Shibataea</i>	<i>Pseudosasa</i>
<i>Struthiopteris</i>	<i>Torreya</i>	<i>Chamaele</i>
<i>Clethra</i>	<i>Achudernia</i>	<i>Stewartia</i>
<i>Daphnimorpha</i>	<i>Tripetaleia</i>	<i>Menziesia</i>

<i>Diaspanthus</i>	<i>Falcata</i>	<i>Cardiocrinum</i>
<i>Majanthemum</i>	<i>Alectonurus</i>	<i>Metanartheceum</i>
<i>Tofieldia</i>	<i>Hosta</i>	<i>Chionographis</i>
<i>Pseudostellaria</i>	<i>Sorbus</i>	<i>Aruncus</i>

Thus the total number of the genera became 34. The genera which have their northern limits of distribution in Amami-osima and Tokunosima Region are:

<i>Egenolfia</i>	<i>Boerhaavia</i>	<i>Pisonia</i>
<i>Sesuvium</i>	<i>Drynaria</i>	<i>Osteomeles</i>
<i>Ormocarpum</i>	<i>Derris</i>	<i>Toddalia</i>
<i>Murraya</i>	<i>Macaranga</i>	<i>Gymnosporia</i>
<i>Sageretia</i>	<i>Corchorus</i>	<i>Abelmoschus</i>
<i>Thespesia</i>	<i>Helicteres</i>	<i>Heritiera</i>
<i>Schima</i>	<i>Adinandra</i>	<i>Garcinia</i>
<i>Barringtonia</i>	<i>Bruguiera</i>	<i>Stimpsonia</i>
<i>Planchonella</i>	<i>Maba</i>	<i>Parsonsia</i>
<i>Cordia</i>	<i>Carmona</i>	<i>Heliotropium</i>
<i>Volkameria</i>	<i>Leucas</i>	<i>Thysanosperrum</i>
<i>Pandanus</i>	<i>Hackelochloa</i>	<i>Thuarea</i>

Thus the total number of the genera became 36 ( $24 + 26 = 60$ , dividing number of genera of Tokara Strait). Thus the dividing number of genera of the Osumi Strait is 107, and that of the Tokara Strait is 60.

These facts show that the hypothetical line between Tanegasima and the main land of Kyusyu (or the Osumi Strait) is more important than the other line between Amami-osima and Yakusima.

To intensify the result I want to give another important fact. That is, the mountain in the South Kyusyu, such as Mt. Kirisima, Mt. Takakuma, Mt. Itibusa and Mt. Sibi, etc. have the summer green broad leaved forest belt just above the ever green broad leaved forest belt, but in the island of Yakusima we can't see such summer green broad leaved forest belt even if there exists a mountain which attains as high as 1935 m. This character of the forest vegetation arrangement of the mountain is very much alike to that of the vegetation of Formosa.

From these considerations I have come to conclude that the Osumi Strait has deep value as a phytogeographical demarcation line, and Yakusima and Tanegasima make a special transitional region between the Taiwan and Ryukyu Floral Province and South Nippon Floral Province.